

Wireless Bipolar Power Transistor 45W, 1930-1990 MHz

M/A-COM Products
Released - Rev. 07.07

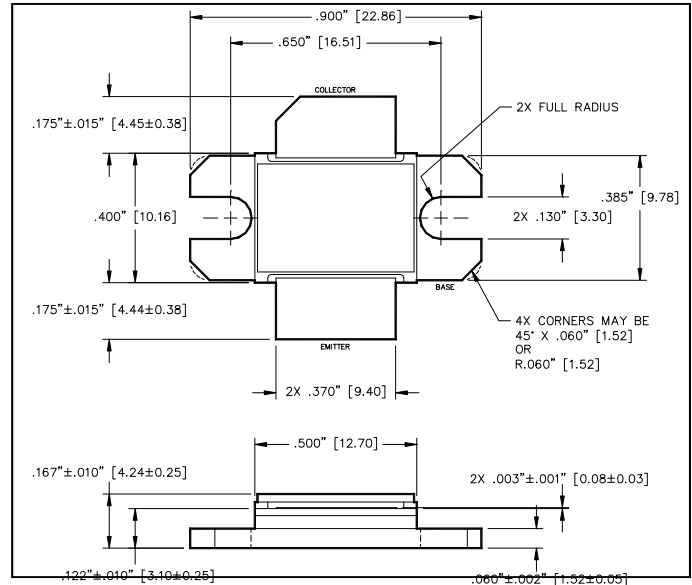
Features

- NPN silicon microwave power transistor
- Common emitter class AB operation
- Internal input and output impedance matching
- Diffused emitter ballasting
- Gold metallization system

ABSOLUTE MAXIMUM RATING AT 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	5.5	A
Power Dissipation	P_D	100	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +150	°C
Thermal Resistance	θ_{JC}	1.3	°C/W

Outline Drawing



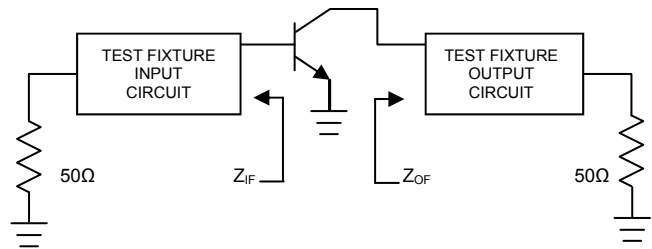
UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ± 0.005 [MILLIMETERS $\pm 0.13\text{mm}$]

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Power Gain	G_P	8	-	dB	$V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 45\text{ W}, F = 1930, 1990\text{ MHz}$
Collector Efficiency	η_C	40	-	%	$V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 45\text{ W}, F = 1930, 1990\text{ MHz}$
Input Return Loss	RL	10	-	dB	$V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 45\text{ W}, F = 1930, 1990\text{ MHz}$
Load Mismatch Tolerance	VSWR	-	3:1	-	$V_{CC} = 25V, I_{CQ} = 200\text{ mA}, P_{out} = 45\text{ W}, F = 1930, 1990\text{ MHz}$

BROADBAND TEST FIXTURE IMPEDANCES

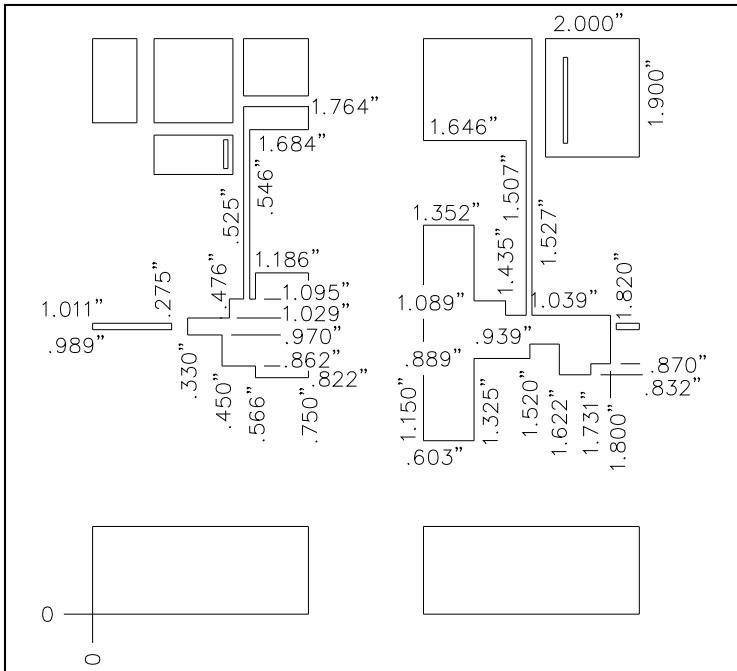
F (GHz)	$Z_{IN} (\Omega)$	$Z_{LOAD} (\Omega)$
1930	2.8-j5.5	4.8-j1.1
1960	2.7-j5.4	5.0-j1.3
1990	2.6-j5.3	5.2-j1.5



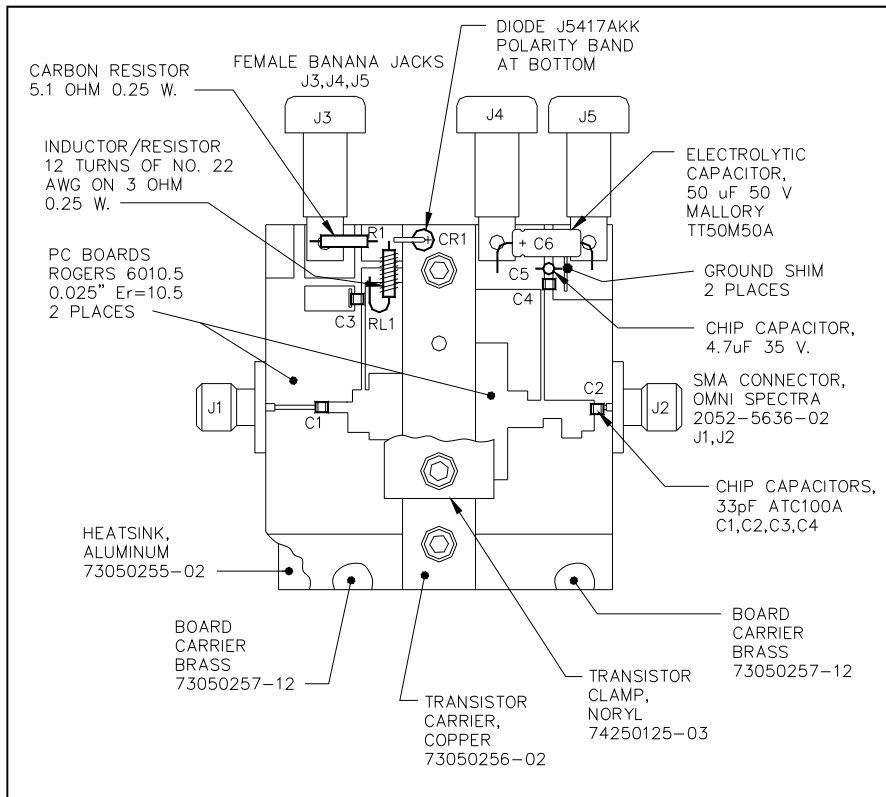
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TEST FIXTURE DIMENSIONS



TEST FIXTURE ASSEMBLY



ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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